

### 100 Million Tons of Coal Annually

At the 100 MNT level of rail operations, the daily amount of time that each grade crossing would be blocked would increase from approximately 11.6 minutes (existing conditions) to approximately 85.1 minutes (train length of 6,400 feet) and 96.2 minutes (train length 7,400 feet) or from 4 times daily (2.9 minutes each) to 37 times daily (2.3 minutes for each 6,400-foot train and 2.6 minutes for each 7,400 foot-train). However, all four grade crossings evaluated would experience a reduction in delay per stopped vehicle. This would be due to increased train speeds from the existing speed of a maximum of 30 miles per hour to the proposed speed of 40 miles per hour. The increase in rail traffic would result in the grade crossings being blocked more often, but for a shorter duration per train passing. The level of service would be level C following rehabilitation for both train length scenarios. Because the crossing would not be blocked as long during each train passing, all four crossings would experience a reduction in maximum vehicle queue length.

### **Alternative P-3: Pierre/Fort Pierre Bypass**

The proposed Pierre bypass would cross three roads that do not currently have rail line crossings in the area: the access road to Antelope Creek Recreation Area, State Road 1806, and U.S. Highway 83. Short-term impacts, primarily during construction, would include reduced access, lane reductions, temporary closures, and detours around the crossings.

Long-term impacts during operation would include vehicle delays during train crossing events and the new risk of vehicle/train collisions along the roadways. None of the roads crossed by the proposed bypass have ADT volumes of 5,000 vehicles per day or greater. However, considering the topography in the area and the potential grade-line of Alternative P-3, a new grade separation at the U.S. Highway 83 crossing south of Fort Pierre would likely be necessary. Construction of this crossing could result in traffic delays for travelers due to lane reductions, detours, or temporary closures to allow for construction over the highway. Following completion of the separation, no delays to motorist would normally occur along this road due to rail operations.

### **5.2.11 SAFETY**

The Pierre/Fort Pierre alternatives present potential safety hazards for motorists at grade crossings and pedestrians at highway/rail grade crossings and along the rail line. As discussed in Chapter 4 of the Draft EIS, road safety during construction and reconstruction would be reduced because of increased traffic and congestion on roadways from closures or detours at crossings and transportation of materials and crews to work sites. Impacts would also include increased road hazards resulting from accelerated wear and tear on roadways due to increased operation of

heavy trucks and machinery. Emergency vehicles could need to be rerouted during construction to avoid delays due to traffic congestion or closed crossings. Pedestrian traffic could also need to be diverted to avoid hazards in construction areas.

To evaluate the significance of potential changes in accident frequency for the Pierre/Fort Pierre Alternatives due to increases in rail line operations, SEA categorized highway/railroad grade crossings into two categories. Category A consists of highway/railroad grade crossings with a history of relatively frequent train-vehicle accidents. Crossings in South Dakota with accident frequency rates at or above 1 accident every 20 years (0.051067 accident frequency rate) are considered by SEA to be Category A highway/railroad grade crossings. For these crossings, an increase of 1 accident every 100 years (a 0.01 accident frequency rate increase) was considered significant in this EIS.

SEA defined Category B crossings as highway/railroad grade crossings with a history of relatively infrequent train-vehicle accidents. Crossings in South Dakota with accident frequency rates less than 1 accident every 20 years (less than 0.051067 accident frequency rate) were considered by SEA to be Category B highway/railroad grade crossings. For those crossings, an accident frequency rate increase of 1 accident every 20 years (a 0.05 accident frequency rate increase) was considered by SEA to be significant.

#### **Alternative P-1: No-Action**

No changes in existing rail operations would occur under Alternative P-1. The No-Action alternative presents potential safety concerns, because the existing line is deteriorating. No track or warning device improvements would likely be made unless Alternative P-2 or P-3 is approved and implemented.

#### **Alternative P-2: Existing Rail Line**

During rail line reconstruction, impacts to safety would be the same as discussed above. Following reconstruction of the existing rail line, increases in rail traffic and speed during operation could substantially impact motorist and pedestrian safety within the Pierre and Fort Pierre areas. The increase in trains traveling through the area would increase the opportunity for accidents. Increased train speed on the improved rail line may also affect a motorist's or pedestrian's judgment regarding the time needed for the train to reach the crossing.

The Health Center at St. Mary's Hospital in Pierre is within 500 feet of the existing rail line and the hospital is immediately behind the Health Center. Reconstruction of the existing rail line could affect the movement of emergency vehicles and safety of their passengers during an emergency event. Establishment of emergency routes to reduce delay caused by reconstruction

activities or, during operation of Alternative P-2, trains blocking crossings would be required. The construction of a grade separated crossing in the vicinity of the hospital, pursuant to mitigation recommended in Chapter 12, would significantly reduce the delay of emergency vehicles due to passing trains at the separated crossing following completion of the separation, even though additional delay could occur temporarily during the construction of the grade separated crossing.

Safety is also a concern for pedestrian traffic along the existing route. A bike and walking path that runs adjacent to Capitol Creek crosses the DM&E rail line in Pierre. The Oahe Child Development Center, Boys Club, Hyde Stadium, Pierre Jr. High School, and a football field are located within one block of the tracks in Pierre, as well as the Hughes County Courthouse, Military Veterans Affairs Building, the social services building, and the Hughes County Fairgrounds. Two schools, as well as Stanley County High School, its football field, and Parkview Auditorium are within two blocks of the DM&E rail line in Fort Pierre. The U.S. Post Office, Stanley County Courthouse, and the swimming pool and municipal park are also located across the rail line from a large residential area in Fort Pierre. During reconstruction activities, there is an increased potential for those inconvenienced by detours to trespass along the rail line right-of-way and cross at unauthorized locations, potentially causing injury.

During operation of Alternative P-2, the proximity of these facilities to the rail line and the proposed increase in rail traffic would present a potential increased safety hazard to pedestrians and cyclists crossing the tracks. Motorists, pedestrians, and cyclists could become frustrated by delays at grade crossings and ignore safety signals in an attempt to "beat" the train. This would increase the chance for vehicle or pedestrian/train accidents. As noted in Chapter 12, SEA has recommended in its final mitigation that fencing be placed on either side of the rail line right-of-way in residential areas to restrict pedestrian access to the rail line to designated crossing locations. In addition, DM&E's proposed Grade Crossing Mitigation Plan would increase the level of warning protection at roadways crossed by Alternative P-2. SEA's recommended mitigation in Chapter 12 would require, at a minimum, that DM&E comply with the Grade Crossing Mitigation Plan.

The State of South Dakota expressed concern that increased train traffic on the improved track would cause traffic delays on State Route 34 during the summer when drivers are trying to enter Farm Island Recreation Area. Backed up traffic on State Route 34 would cause a safety hazard because vehicles could be stopped on the highway, blocking those traveling east out of Pierre. Stopped vehicles could be rear-ended and impatient drivers could try to pass those waiting and cause accidents in the west bound lane. However, train passing events would be relatively quick, approximately 2.3 minutes for each 6,400-foot train and 2.6 minutes for each 7,400 foot-train. Both of these passing periods would be less than the approximately 2.9 minutes

currently required for a train to pass, but delays potentially resulting in backups on State Route 34 would occur more frequently because there would be more trains.

SEA's analysis of predicted accident frequency at grade crossings along the existing alignment in Pierre and Fort Pierre is discussed below by level of rail line traffic.

#### 20 Million Tons of Coal Annually

SEA's safety analysis shows that for the 11 public grade crossings along Alternative P-2 in Pierre, Hughes County, the predicted increases in accident frequency at the 20 million tons of coal annually level of operation would range from 0.007 to 0.037. This translates into a range of increase from one accident every 140 years to one accident every 27 years. SEA found these changes to be significant at Harrison Street and Highway 14/34. These two crossings are classified as Category A, and crossing protection devices at both crossings are included for upgrades as part of the Grade Crossing Mitigation Plan (Appendix D). See SEA's recommended grade crossing mitigation in Chapter 12. SEA found the increases for all other crossings in Pierre to be below the criteria for significance.

SEA's safety analysis shows that for the 8 public grade crossings along the existing alignment in Fort Pierre, Stanley County, the predicted increases in accident frequency at the 20 MNT level of operation would range from 0.004 to 0.019. This translates into a range of increase from one accident every 229 years to one accident every 53 years. SEA found these changes to be significant at 7<sup>th</sup> Avenue and Main Avenue. These two crossings are classified as Category A, and crossing protection devices at both crossings are included for upgrades as part of the Grade Crossing Mitigation Plan (Appendix D). See SEA's recommended grade crossing mitigation in Chapter 12. SEA found the predicted increases in accident rates for all other crossings in Fort Pierre to be below the criteria for significance.

#### 50 Million Tons of Coal Annually

SEA's safety analysis shows that for the 11 public grade crossings along the existing alignment in Pierre, Hughes County, the predicted increases in accident frequency at the 50 MNT level of operation would range from 0.013 to 0.060. This translates into a range of increase from one accident every 79 years to one accident every 17 years. SEA found these changes to be significant at Lowell Road, Monroe Street, Harrison Street, Highway 14/34, and Ree Street. These five crossings are classified as Category A, and crossing protection devices at these crossings would be upgraded under SEA's recommended grade crossing mitigation in Chapter 12. SEA found the increases for all other crossings in Pierre to be below the criteria for significance.

SEA's safety analysis shows that for the 8 public grade crossings along the existing alignment in Fort Pierre, Stanley County, the predicted increases in accident frequency at the 50 MNT level of operation would range from 0.008 to 0.032. This translates into a range of increase from one accident every 123 years to one accident every 31 years. SEA found these changes to be significant at 7<sup>th</sup> Avenue and Main Avenue. These two crossings are classified as Category A, and crossing devices at these locations would be upgraded under SEA's recommended grade crossing mitigation (see Chapter 12). SEA found the predicted increases in accident rates for all other crossings in Fort Pierre to be below the criteria for significance.

#### 100 Million Tons of Coal Annually

SEA's safety analysis shows that for the 11 public grade crossings along the existing alignment in Pierre, Hughes County, the predicted increases in accident frequency at the 100 MNT level of operation would range from 0.019 to 0.079. This translates into a range of increase from one accident every 53 years to one accident every 13 years. SEA found these changes to be significant at Lowell Road, Monroe Street, Harrison Street, Highway 14/34, Ree Street, Highland Avenue, and Central Street. These five crossings are classified as Category A, and crossing protection devices at these crossings would be upgraded under SEA's recommended grade crossing mitigation (see Chapter 12). SEA found the increases for all other crossings in Pierre to be below the criteria for significance.

SEA's safety analysis shows that for the 8 public grade crossings along the existing alignment in Fort Pierre, Stanley County, the predicted increases in accident frequency at the 100 MNT level of operation would range from 0.012 to 0.047. This translates into a range of increase from one accident every 81 years to one accident every 21 years. SEA found these changes to be significant at 7<sup>th</sup> Avenue, Second Avenue, and Main Avenue. These three crossings are classified as Category A, and their crossing protection devices would be upgraded under SEA's recommended grade crossing mitigation (see Chapter 12). SEA found the predicted increases in accident rates for all other crossings in Fort Pierre to be below the criteria for significance.

#### **Alternative P-3: Pierre/Fort Pierre Bypass**

Alternative P-3 would be constructed in a predominantly rural area dominated by pasture land. Three homes and no businesses or schools are located within 2,500 feet of the proposed rail line. The campgrounds for Antelope Creek Recreation Area, however, are located approximately 2,000 feet from the proposed Missouri River crossing and the rail line would cross the access road to the campgrounds. This could pose a safety concern for those camping nearby and participating in recreational activities in the area. Fencing along the right-of-way in this area would deter individuals from crossing or walking along the tracks.

In addition to the Antelope Creek Recreation Area access road, two other roads would be crossed by the proposed rail line. Both are located at the west end of the bypass, south of Fort Pierre, State Road 1806 and U.S. Hwy 83. Although it appears that the crossing of U.S. Highway 83 would likely be grade separated due to the potential grade line of Alternative P-3, SEA conservatively considered U.S. Highway 83 as a grade crossing for its safety analysis.

SEA's analysis of predicted accident frequency at new grade crossings along the bypass around Pierre and Fort Pierre is discussed below by level of rail line traffic.

#### 20 Million Tons of Coal Annually

SEA's analysis shows that for the 3 public grade crossings along Alternative P-3, the predicted accident frequency at the 20 MNT level of operation would range from 0.013 to 0.029. This translates into a range of one accident every 77 years to one accident every 34 years, which is not considered significant.

#### 50 Million Tons of Coal Annually

SEA's safety analysis shows that for the 3 public grade crossings along the bypass alignment, the predicted accident frequency at the 50 MNT level of operation would range from 0.018 to 0.037. This translates into a range of one accident every 56 years to one accident every 27 years, which is not considered significant.

#### 100 Million Tons of Coal Annually

SEA's safety analysis shows that for the 3 public grade crossings along the bypass alignment the predicted accident frequency at the 100 MNT level of operation would range from 0.024 to 0.046. This translates into a range of one accident every 42 years to one accident every 22 years, which is not considered significant.

### **5.2.12 HAZARDOUS MATERIALS**

The types and amounts of hazardous materials currently transported by DM&E on its existing rail line and the location of hazardous materials sites, including those along the Pierre/Fort Pierre alternatives, are discussed in the Draft EIS. The location of hazardous materials sites is important because soil disturbing activities at or near the sites could expose workers or the public to contaminants, if necessary precautions are not taken.

### **Transportation of Hazardous Materials**

DM&E does not currently transport a substantial amounts of hazardous materials. Most of the hazardous materials it transports are limited to the eastern portions of its system in Minnesota. Currently, the section of DM&E's existing rail line from Pierre westward though Fort Pierre is classified as "excepted track" by FRA due to its deteriorated condition. This classification restricts operating speeds to 10 miles per hour and limits the transport of hazardous materials to approximately 200-250 carloads per year. DM&E has no plans to increase the amount or types of hazardous materials transported along the rail line if the PRB Expansion Project is approved and constructed.

#### **Alternative P-1: No-Action**

Alternative P-1 would result in no changes in the transportation of hazardous materials over the existing rail line. The poor condition of the existing DM&E track and projected further deterioration, however, increases the chances of a derailment that could potentially release hazardous materials if one of the action alternatives is not approved and constructed.

#### **Alternative P-2: Existing Rail Line**

No increase in the type or amounts of hazardous materials being transported by DM&E are expected to occur as a result of the proposed reconstruction or subsequent operation of the rail line. The likelihood of an accident involving the release of hazardous substances is currently low because of the minimal quantities of such materials transported. Reconstruction of the existing track would provide an improved, safer rail line, further reducing the potential for such an accidental release.

#### **Alternative P-3: Pierre/Fort Pierre Bypass**

The proposed bypass would route all rail traffic around Pierre and Fort Pierre. The amount of hazardous materials being transported along the rail line would not change from current conditions, but the improved track conditions along the bypass, compared to the existing route through town, would decrease the potential risk of a derailment involving the release of hazardous substances. The potential risk under Alternative P-3, however, would be present in an area where no such risk was previously a concern.

### **Hazardous Material Sites**

As described in Chapter 4 of the Draft EIS, hazardous material sites are places where releases of hazardous materials have been reported to local, state, or Federal authorities.

Database searches were conducted for Stanley and Hughes counties, South Dakota. The following discusses the hazardous materials sites reported along the existing or proposed bypass rail line.

### **Alternative P-1: No-Action**

In Stanley County, no leaking underground storage tank (LUST) sites were found to exist within 0.5-mile of the existing DM&E rail line. Nine sites were recorded in Hughes County (Chapter 4). As noted in the Draft EIS, there is the potential for underground storage tanks to occur within 0.5 mile of the existing rail line in Stanley and Hughes counties. Review of Emergency Response Notification System (ERNS) sites identified a clay spill in Hughes County near Pierre, and Spill Notification Reports indicate spills of triflurilan and fertilizer in Hughes County near Pierre. No construction or reconstruction would occur with this alternative, resulting in no impacts to existing hazardous materials sites. Because the condition of the existing rail line would not be improved, the potential for a derailment would remain relatively high. Should a derailment involving hazardous materials occur, a new hazardous materials site could be created.

### **Alternative P-2: Existing Rail Line**

Alternative P-2 would be in proximity to the same hazardous materials sites as Alternative P-1. SEA has recommended mitigation in Chapter 12 to minimize impacts related to disturbing hazardous materials sites.

The potential for railroad operations resulting in new hazardous material sites is low because track improvements would decrease the likelihood of a derailment and associated spill of hazardous materials. Compliance with hazardous materials disposal, storage, and handling regulations during project operation would reduce the risk of accidental spills or releases of hazardous materials (see the mitigation recommendations in Chapter 12).

### **Alternative P-3: Pierre/Fort Pierre Bypass**

Because Alternative P-3 was not evaluated in detail in the Draft EIS, SEA conducted a database search for potential areas of environmental contamination along Alternative P-3 for this Final EIS. The database report searched sites within 0.5 mile on either side of the bypass route. No mappable sites were identified but 28 orphan sites (sites which could not be mapped in relation to the route) were identified in the database search. Eighteen of these orphan sites were identified to be located further than 0.5 mile from the route. The remaining ten orphan sites could not be located in relation to the route and are presented in Table 5.5. Although it was not possible to determine if these sites were within the proposed Alternative P-3 right-of-way, they



are all located along highways that intersect the route. Thus there is the potential for these sites to be near the proposed rail line at locations where Alternative P-3 would cross local roadways. There is no evidence that any of these sites has caused contamination. If the location of any of these sites is determined to be within or adjacent to the proposed rail line right-of-way, appropriate measures would be required to avoid disturbance of any contaminated sites (see Chapter 12).

<b>Table 5-5</b> <b>Areas of Potential Environmental Concern along Alternative P-3</b>			
<b>Name</b>	<b>Location</b>	<b>Type of Site</b>	<b>Indication</b>
Beck Motors, Inc.	Hwy 34 Pierre, SD	AST, UST,	One AST reported
Forney Oil Company, Inc.	Hwy 34 Pierre, SD	AST	One AST reported
Pioneer Oil & Gas Company	Hwy 34 Pierre, SD	AST	One AST reported
United Parcel Service	Hwy 34, Pierre, SD	UST	No specific information
Clark Unit	Hwy 1806, Pierre, SD	UST	No specific information
Whiskey River Outpost	4800 Hwy 34, Pierre, SD	UST	No specific information
Park View Elementary	Hwy 83, Fort Pierre, SD	FTTS, FINDS	No violations, listed on NCDB
SD Ang-OMS 7	Hwy 34, Pierre, SD	FINDS, RCRIS	Listed on FFIS database, No violations reported
Pierre Auto Parts	Hwy 34, Pierre, SD	FINDS, RCRIS	No violations reported
AST = Aboveground Storage Tanks, FINDS = Facility Index System, FTTS = Federal Insecticide, Fungicide, & Rodenticide Act/Toxic Substances Control Act Tracking System, RCRIS = Resource Conservation and Recovery Information System, UST = Underground Storage Tanks			

The potential for railroad operations resulting in new contamination sites is low because the condition of the new track would decrease the likelihood of derailments resulting in spills. Compliance with existing hazardous materials disposal, storage, and handling regulations during project operation would reduce the risk of accidental spills or releases of hazardous materials.

### **5.2.13 ENERGY RESOURCES**

No project-related effects related to energy resources would be expected from Alternative P-1. As described in Chapter 4 of the Draft EIS, DM&E transports very few energy-related resources. Upgrading the existing rail line through Pierre and Fort Pierre or construction of the proposed Pierre bypass would result only if DM&E successfully constructed a rail line extension into the PRB and obtained contracts to transport coal from the PRB to utilities throughout the Midwest. Should this occur, it would establish a more cost-effective transportation route for PRB coal already being transported on other rail lines, making the transportation of the coal more efficient and reliable. Energy sources could be available to users at a more economical rate with higher reliability and greater efficiency.

Construction of the slightly shorter route bypassing Pierre and Fort Pierre (14.8 miles verses 17.8 miles) could result in diesel fuel savings for the transportation of PRB coal. However, the steeper grades required to rise out of the Bad River valley, down into, and then out of the Missouri River valley and the numerous curves along Alternative P-3 could actually require greater fuel consumption than that required for rail operation over the longer Alternative P-2. While the overall PRB Expansion Project has the potential to save millions of gallons of diesel fuel each year for the transportation of PRB coal, thus making coal a more attractive energy source and using diesel fuel more efficiently, there appears to be no significant difference in the potential impacts of Alternatives P-2 and P-3 regarding transportation or efficient use of energy resources.

### **5.2.14 CULTURAL RESOURCES**

As discussed in Chapter 4 of the Draft EIS, cultural resources are abundant throughout South Dakota. The Great Plains of North America, including the project area, have been occupied by humans for at least 13,000 years. Early humans inhabiting the Pierre area were likely nomadic hunter/gatherers that hunted large game animals and supplemented their diet with small mammals, fish, and wild plants. Over time, these inhabitants made a transition to a more sedentary, village lifestyle. Evidence of several villages, up to 200 acres in size, has been identified along the Missouri River in the Pierre area. Correspondence from the State Historic Preservation Officer, Jay D. Vogt, to Christian J. Hiniker, of Stuart, Elliott, Hendrickson, Inc., indicates a moderate to high sensitivity for archaeological resources to occur in this area (letter dated May 24, 1999).

SEA conducted a review of site records held at the Archaeological Research Center (ARC) in Rapid City. The Area of Potential Effect (APE) differs for each alternative. The APE for reconstruction of the existing line includes the existing right-of-way, while construction of

the bypass includes one mile either side of the proposed bypass route, as the introduction of an entirely new rail line would have a greater effect on the area.

### Alternative P-1: No-Action

The No-Action Alternative would have no additional impacts to cultural resources in the area. Cultural resources may have been disturbed or destroyed, however, during construction of the existing rail line.

### Alternative P-2: Existing Rail Line

Review of the ARC records identified eight sites within or immediately adjacent to the existing DM&E rail line right-of-way through Pierre and Fort Pierre (Table 5-6). Four of the sites are village sites, two are historic or lithic scatter sites, one is a historic fort, and one is a habitation. Six of these sites are potentially eligible for listing in the National Register of Historic Places (NRHP). The four village sites discovered by T. H. Lewis cross or are adjacent to the existing DM&E rail line. These sites were visited by the archaeologist/explorer in the late 1800's during his historic explorations along the Missouri River.

<b>Table 5-6</b> <b>Known Archaeological Sites in or Adjacent to the Existing DM&amp;E Rail Line</b> <b>Right-of-Way through Pierre and Fort Pierre</b>						
Site Number	Site Name	Site Type	In ROW	Adjacent to ROW	National Register Significance	Other Comments
39HU5	Mush Creek	Village	X		Eligible	Intact Portions in ROW
39HU7	McClure Ranch	Village	X		Eligible	Listed in records as in ROW. Field-check indicates it is not in ROW
39HU52	Fort Sully	Historic Fort		X	Eligible	Not in ROW
39HU77		Village	X		Eligible	Destroyed in ROW

<b>Table 5-6</b> <b>Known Archaeological Sites in or Adjacent to the Existing DM&amp;E Rail Line</b> <b>Right-of-Way through Pierre and Fort Pierre</b>						
<b>Site Number</b>	<b>Site Name</b>	<b>Site Type</b>	<b>In ROW</b>	<b>Adjacent to ROW</b>	<b>National Register Significance</b>	<b>Other Comments</b>
39HU97	Little Pumpkin	Village	X		Eligible	Intact portions in ROW
39HU133		Lithic Scatter		X	Not Eligible	Not in ROW
39HU134		Historic Scatter		X	Not Eligible	Destroyed in ROW
39HU135		Habitation		X	Not Eligible	Not in ROW

As discussed in Chapter 4 of the Draft EIS, unknown cultural resources could be encountered during reconstruction activities and possibly damaged or destroyed. The risk of encountering such resources is fairly high near Pierre because of the high amount of documented Native American activity in the area, especially close to the Missouri River. In fact, all but three of the known archaeological sites in or adjacent to the existing DM&E rail line in South Dakota were in the Pierre area. Previous disturbance within the existing rail line right-of-way where the majority of reconstruction activity would occur, however, reduces the risk of encountering intact archaeological sites. Additionally, much of the rail line east of Pierre is in reasonably good condition and would not likely require extensive reconstruction. Reconstruction associated with Alternative P-2 should have limited potential to disturb cultural resources of significance.

Along the existing rail line, several water crossing structures, such as bridges, trestles, and culverts, are present that were determined eligible for listing in the NRHP due to their age and design (see Historic Structures Report - South Dakota, included in the Draft EIS, Appendix N). Table 5-7 lists the structures along Alternative P-2 and their NRHP eligibility. Many of these structures could need renovation or replacement to be suitable for the movement of unit coal trains. The replacement or extensive modification of NRHP eligible bridges and culverts during reconstruction of the existing rail line would result in an adverse impact to historic resources.

Historic resources identified along the rail line were developed as part of or in association with railroad activities and the project would not change the nature or context within which these structures are found. Operation of Alternative P-2, which would increase rail traffic

on the existing rail line, would have no impact on the setting or character of the historic structures along the existing rail line. Therefore, operation of Alternative P-2 would have no impact on historic resources.

<b>Table 5-7 Historic Structures Within the Right-of-way of Alternative P-2</b>		
<b>Structure</b>	<b>Year Built</b>	<b>NRHP Eligible</b>
Deck Plate Girder	Unknown	Y
Truss Bridge	1885	Y
Truss Bridge	1885	Y
Truss Bridge	1906	Y
Stone Box Culvert	1907	N
Through Plate Girder	1907	Y
Truss Bridge	1921	Y
Through Plate Girder	1921	Y
Open Deck Pile Trestle	1929	Y
Open Deck Pile Trestle	1934	Y
Open Deck Pile Trestle	1941	Y
Open Deck Pile Trestle	1946	Y
Open Deck Pile Trestle	1947	Y
Open Deck Pile Trestle	1947	Y
Open Deck Pile Trestle	1948	Y
Open Deck Pile Trestle	1948	Y
Open Deck Pile Trestle	1948	Y
Open Deck Pile Trestle	1949	N

### **Missouri River Bridge**

The existing DM&E Missouri River Bridge is designated as historic and is listed on the NRHP. It was constructed in 1906 and modified in 1927. Extensive modifications to this bridge or its removal (if another bridge is constructed and ownership cannot be transferred) would result in an adverse impact to this structure. The Programmatic Agreement (PA) ensures completion of the Natural Historic Preservation Act, Section 106 process, to protect and preserve the history of this structure. Chapter 12 of this Final EIS contains a condition requiring DM&E to comply with the PA.

### **Alternative P-3: Pierre/Fort Pierre Bypass**

Review of the ARC records for the project area of Alternative P-3 identified thirteen sites within one mile of the proposed bypass alignment. These sites include six artifact scatters, two grave sites, two homesteads, one cabin, one village, and one site of undefined occupation (Table 5-8). Six of these sites are not eligible for listing in the NRHP, two are eligible, one is listed on the NRHP, and the status of four has yet to be determined.

Unknown cultural resources would likely be encountered during construction activities under Alternative P-3. Extensive Native American village sites are known to have been present within the area of the proposed Missouri River crossing, along both sides of the Missouri River, and on the bluffs above the river. Thus, it is likely that significant cultural resources, including villages, graves, sacred sites, and traditional cultural properties (TCPs) occur throughout the area of Alternative P-3. Additionally, it is likely that significant archaeological resources are present on Antelope Island, inundated by the construction of Lake Sharpe. The proposed new bridge construction would cross this area and likely require underwater cultural resource surveys and potentially underwater mitigation of any resources found.

Construction of Alternative P-3 would likely encounter numerous significant cultural resources sites within the alignment right-of-way. These resources would require mitigation, including excavation and possible reinternment of human remains and burial objects, which would be considered an adverse impact. Excavation and earthwork for Alternative P-3 could also result in the inadvertent discovery and subsequent damage or destruction of previously unidentified archaeological sites. Some adjustments could be made to the alignment to avoid or reduce impacts to cultural resources, where the density of cultural resource sites and curve and grade requirements allow such adjustments. However, the topography of the area and the potential for a high density of sites would make adjustments to the alignment very difficult.

Construction of Alternative P-3 would introduce a new rail line into an environment where one did not previously exist. This would create a new visual element to the landscape not previously present. The change in the setting of the area due to the altered viewshed and introduction of rail noise would likely have a negative affect on any TCPs found along Alternative P-3. The presence of TCPs along Alternative P-3 is considered likely due to the long period of habitation throughout the area and the cultural and spiritual importance of the Missouri River to Native American Tribes. Therefore, cultural resources within one mile of the proposed bypass likely would be considered to be significantly impacted by construction and operation of Alternative P-3. Table 5-8 lists the recorded archaeological sites within one mile of Alternative P-3.

<b>Table 5-8</b> <b>Known Archaeological Sites Within One Mile of Alternative P-3</b>						
<b>Site Number</b>	<b>Site Name</b>	<b>Site Type</b>	<b>Site Size</b>	<b>Current Condition</b>	<b>Current Impacts</b>	<b>National Register Significance</b>
39HU0130	Laudy	Homestead	5 acres	Unknown	Recreation	Not Eligible
39HU0131	None	Artifact scatter		Destroyed	Shoreline erosion	Not Eligible
39HU0132	None	Artifact scatter		Destroyed	Shoreline erosion	Not eligible
39HU0274	None	Artifact scatter, Depression	0.25 ha	Unknown	Unknown	Undetermined
39ST0055	Antelope Creek	Earthlodge village	10 acres	Good integrity		Eligible
39ST0060	None	Burial/grave		Unknown	Unknown	Not eligible
39ST0116	None	Prehistoric artifact scatter	645 m <sup>2</sup>	Unknown	Recreation	Undetermined
39ST0117	None	Prehistoric artifact scatter, Historic homestead	2500 m <sup>2</sup>	Unknown	Recreation	Undetermined

<b>Table 5-8</b> <b>Known Archaeological Sites Within One Mile of Alternative P-3</b>						
<b>Site Number</b>	<b>Site Name</b>	<b>Site Type</b>	<b>Site Size</b>	<b>Current Condition</b>	<b>Current Impacts</b>	<b>National Register Significance</b>
39ST0106	Lower Antelope Creek	Dugout/depression, Historic artifact scatter, Undefined occupation	2.5 ha	Unknown	Recreation	Listed
39ST0123	Boice	Homestead	2500 m <sup>2</sup>	Unknown	Recreation	Not eligible
39ST0124	Pipe Bearer	Undefined occupation	15000 m <sup>2</sup>	Unknown	Erosion, Recreation	Eligible
39ST0125	None	Cabin	100 m <sup>2</sup>	Lacks integrity	Recreational	Not eligible
39ST0126	None	Burial/grave	1 m <sup>2</sup>	Unknown	Unknown	Undetermined

### **Missouri River Bridge**

Construction of the proposed Pierre bypass would involve constructing a new Missouri River bridge. The proposed location of the bridge is just downstream from Antelope Island in Lake Sharpe. Prior to the impoundment of the Missouri River, Antelope Island was larger and was likely inhabited by Native American Tribes. Evidence suggests that large Native American villages were once present on the island and surrounding area for several hundred years (South Dakota Archaeology Survey). The presence of such villages makes the likelihood of encountering large amounts of significant cultural resources during the construction of the bridge a high probability. Surveys would need to be conducted in the area, and might include underwater surveys, prior to construction activities. Other necessary precautions, including compliance with the PA, would be required to avoid destruction of any resources found or to mitigate those which could not be avoided. Mitigation could take several years, especially given the seasonal constraints imposed by the region, and likely would be very expensive.

In addition, the existing Missouri River bridge is listed on the NRHP, as discussed previously. If ownership of the existing Missouri River bridge cannot be transferred to another entity, removal of the bridge could be required because of the cost of maintenance. This would be considered a significant impact because of the bridge's listing on the NRHP.



### **5.2.15 SOCIOECONOMICS**

The following discusses socioeconomic effects related to the Pierre/Fort Pierre alternatives. Additional discussion regarding Hughes and Stanley counties can be found in Chapter 4 of the Draft EIS.

#### **Alternative P-1: No-Action**

There would be no change in the social or economic characteristics of the Pierre and Fort Pierre area from current conditions, provided DM&E remained a viable railroad. No new jobs would be created and tax revenues would remain the same. Denial of the project could result in DM&E closure and the loss of jobs in the Pierre/Fort Pierre area. Loss of rail service could also affect rail shippers, many of whom, particularly grain shippers, commented on the importance of rail service to their businesses and the positive economic impacts that rehabilitation of the existing rail line would have on their businesses. No such benefits would occur under Alternative P-1.

#### **Alternative P-2: Existing Rail Line**

Reconstruction of the existing rail line and subsequent increase in rail traffic could have socio-economic impacts in Pierre and Fort Pierre. Commenters, including representatives of Pierre and Fort Pierre, and citizens of both communities expressed concern that increases in noise and vibration and reductions in air quality along the rail line could reduce property values for homes adjacent to the DM&E rail line. As previously discussed, however, increased rail operations would be only one component of determining property value, and SEA does not believe that Alternative P-2 would result in significant long-term reductions to residential property values in the area.

Reconstruction of the existing rail line, as discussed in the Draft EIS, Chapter 4, would add approximately 124 direct and indirect temporary jobs to Hughes County and approximately 208 direct and indirect jobs to Stanley County. Reconstruction jobs associated with the existing rail line would be in the Pierre area for a short period of time (several weeks or months), while bridge-related jobs would likely last one or more years. Although these jobs would be for project-related activities throughout all of Hughes and Stanley counties, a portion of these jobs would be available to persons in and around Pierre and Fort Pierre. The comparative size of these two communities (two of the largest in central South Dakota) and the wide range of goods and services they provide would likely result in many reconstruction workers temporarily relocating to the Pierre area.

Hughes County (Pierre) is experiencing population growth with further growth anticipated. In contrast, Stanley County (Fort Pierre) has experienced a decrease in population, despite projected increases by the U.S. Census Bureau. Construction of Alternative P-2 would facilitate the employment of local workers and bring other qualified workers to the area. Workers migrating to the area would likely move on to other job sites following completion of Alternative P-2. Hughes County could easily accommodate the short-term growth and increase in demand for services. Stanley County could experience a substantial short-term percentage increase that could affect the ability of the county and local governments to provide adequate services. Due to proximity and availability of services, Hughes County and the City of Pierre should be able to accommodate any growth that Stanley County could not accommodate.

Chapter 4 of the Draft EIS provides estimates of construction related earnings in each county. The estimate for both Hughes and Stanley counties, combined, is \$32,344,000 for the three year period of construction. A portion of these earnings would likely be used to purchase goods and services from local business and provide tax revenues for the State and counties. The Draft EIS provides an estimate of sales and use taxes generated during project construction from purchases of construction materials and spending by construction workers. In Hughes County, that tax amount is estimated to be \$1,436,500, and in Stanley County it is estimated at \$1,934,800.

The estimated cost of reconstructing the existing DM&E rail line is approximately \$50.4 million. Property taxes would be paid by DM&E to Hughes and Stanley counties based on the length of rail line that runs through each county and the amount of tonnage hauled on the track. These taxes would vary between counties. As estimated in the Draft EIS, the anticipated property tax paid each year by DM&E, in both Hughes and Stanley counties, at 40 million tons of coal annually is \$1,627,800 and at 100 million tons of coal annually is \$1,980,800. For comparison, the amount paid by DM&E in 1997 was \$2,372. This additional revenue would contribute significantly to funds available to each county. Overall, the project should have a positive benefit to the counties' fiscal conditions, thus improving services offered by the counties.

Some commenters on the Draft EIS noted that the South Dakota tax laws pertaining to railroad taxes had been changed. These commenters expressed concern that DM&E's estimated tax burden was too high. SEA has reviewed the new tax laws and determined that DM&E's taxes were likely estimated too low due to the fact that DM&E is no longer exempt from various taxes. (see Chapter 3 of this Final EIS for additional discussion). Therefore, SEA believes the tax estimates presented in the Draft EIS are conservative.

Many commenters expressed concern that additional rail traffic and associated noise would result in reduced conventions, conferences, and tourism to Pierre and lead to business losses at establishments along the rail line. But as Pierre is the State capital, the area should continue to attract tourists, business travelers, and politicians due to the close proximity of State offices and personnel. As noted previously, it is expected that hotel rooms with exterior walls and windows facing the rail line would be affected by noise from passing trains. Hotel patrons staying in these rooms currently experience these impacts, although to a lesser degree than would occur as a result of this project. Significant declines in the number of conferences and conventions and the attendees are not expected to occur due to increased rail noise.

Many commenters also indicated that tourism is important to Pierre due to its proximity to good fishing at Lake Sharpe and Lake Oahe, and some of the best pheasant and waterfowl hunting in the country in the wetlands, fields, and waterways around the city. SEA does not believe that the proposed project would have a substantial adverse impact on the attractiveness of the region to fishermen and hunters because the region would continue to offer excellent opportunities for fishing and hunting.

While a variety of commercial and business services are available in Pierre, in many cases, specific services are only provided by a few establishments. Because the Pierre/Fort Pierre area provides the largest availability of services to local residents for many miles, most residents would probably continue to patronize these establishments even if they experience some reductions in access and increased noise. SEA therefore does not believe significant impacts to businesses located along Alternative P-2 would occur.

### **Alternative P-3: Pierre/Fort Pierre Bypass**

Construction of Alternative P-3 generally would have affects similar to those for Alternative P-2. During construction of the bypass, employment opportunities, including approximately 124 direct and indirect temporary jobs to Hughes County and approximately 208 direct and indirect jobs to Stanley County, would boost the local economy by providing jobs for local workers as well as bring in workers from other areas. While reconstruction associated with Alternative P-2 would likely take only a few weeks or months (except for a few bridge-related jobs), construction of Alternative P-3 could take up to three years. Thus, jobs provided by Alternative P-3 would be longer-term and generate more earning for workers, who in turn would likely spend more money on local goods and services. The more extensive construction required for Alternative P-3 would also likely provide a greater demand for local supplies and materials, creating additional sales for lumber yards, ready mix plants, hardware stores, and other suppliers of tools and construction materials.

Costs to construct the proposed bypass are estimated to be between \$94 million (estimated by the City of Pierre) and \$125.5 million (estimated by DM&E). This is approximately \$43.6 million and \$75.1 million higher than the estimated cost of rehabilitating Alternative P-2 (approximately \$50.4 million). Although the City of Pierre estimated operating costs for the existing line to be higher than for the bypass, DM&E provided information that suggested the opposite. For example, DM&E explained that steep grades (up to 1 percent for long segments, in both directions) would lead to higher fuel consumption and would slow trains down.

SEA conducted site visits along the alignment of Alternative P-3 and agrees with DM&E that the grades along Alternative P-3 would likely be greater than along the existing rail line due to the alignment having to rise out of the Bad River and Missouri River valleys and the numerous curves in the alignment which have the same impact on a train as increasing grade. These grade and curve issues could be resolved but would likely require greater amounts of excavation and earthwork, increasing the cost to construct Alternative P-3. SEA determined that under a best case scenario that assumes a bypass cost of \$94 million and annual operating cost that is \$350,000 cheaper than Alternative P-2 (the highest savings projected by Pierre for Alternative P-3), it would take DM&E approximately 124 years, not considering interest and inflation, to recoup the additional construction costs associated with Alternative P-3.

Alternative P-3 would generate sales and taxes for the communities of Pierre and Fort Pierre as well as for Hughes and Stanley counties. The sales and property taxes generated by Alternative P-3 would be similar to those projected for Alternative P-2.

Construction of Alternative P-3 would be expected to have only limited impacts on property values, as no residences would be located along or in close proximity to Alternative P-3, and even if residential property values in the area were to initially decline, property values likely would normalize after a few years.

Construction of Alternative P-3 would result in the conversion of approximately 652.5 acres of range and agricultural land. This land now is used primarily for production of livestock. As discussed in detail elsewhere in this EIS, loss of this land would reduce the livestock production on the farms and ranches crossed. Losses are estimated to be an annual revenue reduction of approximately \$25 per acre. Construction of Alternative P-3 would result in an annual revenue loss of approximately \$16,313, which is insignificant compared to the million of dollars in construction wages and additional taxes that would be generated by new rail line construction.

### **5.2.16 ENVIRONMENTAL JUSTICE**

As described in the Draft EIS, SEA identified potential environmental justice communities, including minority and low-income populations along the existing DM&E rail line and investigated whether there would be disproportionate project impacts on those populations. No such analysis was done for a Pierre/Fort Pierre bypass because SEA did not retain that route for detailed evaluation in the Draft EIS. The following sections discuss the potential project impacts to these communities, by alternative (including P-3).

In the Draft EIS, SEA identified five census block groups along the existing rail line as potential environmental justice communities. Four met the environmental justice criteria applied in the Draft EIS for low-income populations; the fifth met the criteria for both low-income and minority populations.

In response to comments on the Draft EIS, SEA used additional environmental justice criteria for the Final EIS, as discussed in detail in Chapter 3. The revised analysis was used to search for potential disproportionate adverse impacts to environmental justice communities as a result of construction and operation of the Pierre/Fort Pierre alternatives. The results of this revised analysis are presented below.

SEA's new environmental justice analysis identified six census block groups along the existing DM&E rail line that met the environmental justice criteria. Two are classified as potential environmental justice communities because at least 50 percent of household incomes within the census blocks are considered low-income. Three groups meet the environmental justice criteria since they have more than 1.5 times the percentage of minority residents in them than in the state overall. More than half the households in the sixth group qualify as low-income and the percentage of minority residents in the census block group exceeds the percentage of minorities in the state by 50 percent.

#### **Alternative P-1: No-Action**

Alternative P-1 includes the existing DM&E rail line through Pierre and Fort Pierre. The No-Action Alternative is not anticipated to have any disproportionate effect on environmental justice communities due to train operations remaining at existing levels.

#### **Alternative P-2: Existing Rail Line**

Alternative P-2 would cross six census block groups that meet the criteria for environmental justice communities. SEA evaluated the impacts of Alternative P-2 on these

groups and compared them to those expected for the non-environmental justice groups. SEA's analysis determined that three census blocks would experience disproportionate impacts due to increased noise. Disproportionate impacts would affect one census block group at the 20 million tons of coal annually operation level, two groups at the 50 million tons of coal annually level, and all three at the 100 million tons of coal annually rail operation level. One of these groups would also be disproportionately affected by increased accident frequency at grade crossings, as discussed below.

SEA also identified two environmental justice communities disproportionately affected by significant increases in predicted accident frequency at grade crossings of Wyman Avenue (189801T, MP 439.90), Harrison Street (189844L, MP 480.50), Highway 14/34 (189848A, MP 481.10), Lowell Road (189842X, MP 478.90), Monroe (189845T, MP 480.70), Ree Street (189847G, MP 481.40), Highland Avenue (189848N, MP 481.60), and Central Street (189850P, MP 481.90). One would be affected by the grade crossing at Harrison Street at all levels of rail operation (20, 50, and 100 million tons of coal annually), as well as at the Lowell Road and Monroe crossing at the 50 and 100 million tons of coal annually operation levels. This group would also be disproportionately affected by the increase in noise during rail line operation. The second group would be disproportionately affected by the Highway 14/34 crossing at all levels of rail operation, the Ree Street crossing at the 50 and 100 million tons of coal annually levels, and by the crossings of Highland Avenue and Central Street at the 100 million tons of coal annually rail operation level.

As discussed previously in this chapter, SEA has developed recommended mitigation measures, presented in Chapter 12, to address both noise and grade crossing safety issues. Should the Board ultimately approve Alternative P-2, implementation of these measures should reduce or eliminate noise and safety issues along the existing rail line. Reduction in overall impacts along Alternative P-2 would also reduce impacts to environmental justice communities to the point at which the project would have no disproportionate adverse impact upon them.

### **Alternative P-3: Pierre/Fort Pierre Bypass**

In the Draft EIS, SEA did not identify any potential environmental justice communities associated with this alternative. For this Final EIS, SEA determined that Alternative P-3 would cross one census-block group meeting the criteria for an environmental justice community. This group is classified as an environmental justice community because the percentage of minorities within the census block group is more than 1.5 times the minority percentage for the State of South Dakota.

SEA evaluated the impacts of the proposed construction and operation of Alternative P-3 to this environmental justice group and compared the impacts expected there to those in the non-environmental justice census block groups. SEA's analysis determined that no disproportionate impacts would occur to environmental justice communities located along Alternative P-3.

However, as discussed in Chapter 3, significant impacts on archaeological resources would be disproportionately borne by the Native American Tribes whose ancestors inhabited that area. As discussed earlier, the Pierre area has a long history of habitation and likely contains substantial numbers of significant sites of cultural and spiritual importance to Native American Tribes. Both the Lower Brule and Crow Creek Reservations are located within 20 miles of this area, increasing the likelihood of continued use of traditional areas along the Missouri River. Therefore, SEA has determined that Alternative P-3 would likely have significant impacts on cultural resources, including TCPs, which would result in disproportionate adverse impacts to Native Americans.

### **5.2.17 RECREATION**

There are a variety of recreational opportunities within the Pierre project area, the majority of which are outdoor oriented and include hunting, fishing, camping, athletic events, cross-country skiing, biking, boating, horseback-riding, and hiking. Impacts to recreational facilities during and after reconstruction or construction are discussed in detail in Chapter 4 of the Draft EIS. These impacts could detract from the overall enjoyment of existing facility users, prompting the public to avoid areas along the rail line, and potentially crowding other areas. Recreational facilities experiencing such disturbances during construction would likely experience a decline in use during the construction or reconstruction period. Increased rail traffic following reconstruction or construction of the rail line could also increase safety concerns in the immediate vicinity of the tracks with noise from passing trains disturbing recreationists and detracting from their experience.

#### **Alternative P-1: No-Action**

This alternative would result in no changes to current conditions. Fifteen recreational facilities are within 1,000 feet of the rail line, seven of which are immediately adjacent to the right-of-way. Farm Island Recreational Area on the Missouri River provides camping and day-use facilities, boat ramps, a swimming beach, hiking trails, a playground, and an amphitheater, and is adjacent to approximately 6,500 feet of the south side of the existing rail line. Other recreational facilities adjacent to the rail line right-of-way include the Hillsvue Golf Course, the Capitol Creek Drainage Bike Path, a football field, an unnamed city park in Pierre, the Sublette and Campbell Post Historical Park in Fort Pierre, and the Cottonwood Path in Fort Pierre. Facilities within 1,000 feet of the rail line but not adjacent to the existing rail line include the Hughes County

Fairgrounds, Griffin Park with tennis courts and swimming pool, Hyde Stadium, Capitol Lake, Devine Park, Steamboat Park, a municipal park and swimming pool, and a football field and Parkview Auditorium in Fort Pierre. The No-Action Alternative would have no impact on any of these recreational facilities.

### **Alternative P-2: Existing Rail Line**

Recreational facilities along Alternative P-2 would be the same as those described for Alternative P-1. Impacts during rail line rehabilitation could include increased dust, noise, and safety concerns. During operation, pedestrians and others using the non-motorized exercise courses and walkways could be inconvenienced by the increased number of trains passing through the areas. Higher amounts of train traffic would also increase safety concerns and the frequency of noise disturbance.

In some cases, noise disturbances from operating trains would be shielded by either physical obstacles or other noise sources. For example, State Highway 34 lies between the existing DM&E rail line and the Hughes County Fairgrounds. Noise from traffic on the highway would serve to mask some of the noise generated by passing trains. Another example is Capitol Lake, which is shielded from the rail line by one block of buildings that reduce noise levels experienced at the lake.

Farm Island Recreation Area is located east of Pierre and south of State Route 34 on Lake Sharpe. Reconstruction noise and dust should not cause significant disturbance because the area is currently affected by traffic noise on State Route 34, which would be similar to construction noise. However, during rail line operations, overnight camping facilities would likely experience increased noise from passing trains. The two campgrounds are located approximately 1,000 and 2,000 feet from the existing rail line. Horn-sounding during night train operations could disturb sleeping campers. Because the park's access road is crossed by the existing rail line, the State of South Dakota has concerns about potential traffic problems resulting from blocking of the park entrance by a passing train. During high-use periods, the State is concerned that the increase in passing trains would exacerbate the problem of traffic backup on Highway 34 or patrons waiting to access the area. SEA notes that under proposed operating conditions, trains would block the crossing more times per day, but for shorter periods, reducing traffic backup and allowing traffic to clear more quickly.

Reconstruction of the existing bridge over the Missouri River would require reconfiguration of the multi-purpose trail adjacent to the river and under the bridge. During construction the trail could undergo partial closures as well as increased noise, traffic, and dust. Boating and fishing activities on Lake Sharpe under the bridge would also likely be affected by reconstruction or new bridge construction. The area around the existing bridge is a popular



location for fishermen. In the interest of safety, temporary bank and boat traffic closures or restrictions may be required. Following reconstruction or new bridge construction, some trail users might find the noise from increased train traffic unacceptable and stop using this trail or portions of it close to the bridge. Fishermen, however would likely continue to use the area.

### **Alternative P-3: Pierre/Fort Pierre Bypass**

The proposed Pierre bypass would avoid all the recreational facilities described for Alternatives P-1 and P-2. Recreational opportunities along Alternative P-3 are somewhat limited by private land ownership, but these lands do affect opportunities for outdoor recreation such as hunting and horseback riding. Lake Sharpe provides opportunities for boating, fishing, and waterfowl hunting. Antelope Creek Recreation Area is located on the south bank of Lake Sharpe, west of the south approach of Alternative P-3 to the proposed Missouri River bridge. The facility offers nature watching and day-use facilities.

Construction activities would clear vegetation and disturb soils within the right-of-way for Alternative P-3, eliminating some wildlife habitat. Human activity and construction equipment would also cause wildlife and game species to relocate to other areas, making the area less desirable for hunting. Hunting along the construction right-of-way would also create potentially hazardous conditions if construction workers were present. Disturbances could make the area less desirable for recreational activities.

At the proposed Missouri River crossing, the new rail line would cross approximately 4,600 feet (0.87 mile) of Antelope Creek Recreation Area, which offers day use facilities, hiking and frontage along Lake Sharpe. Impacts to the area during construction would include increased noise, dust, and construction traffic, and access to the facility could be interrupted or delayed occasionally. Operation of the new rail line would introduce train traffic to an area where none had previously been. The noise of passing trains could disturb facility users and local wildlife, which could relocate to other areas, making the area less desirable for recreationists. Rail traffic could also pose a safety hazard to facility visitors, including hikers and nature watchers.

Implementation of this alternative would include construction of a new bridge over the Missouri River, requiring extensive in-river work and installation of new piers. Restrictions or closure of bank and boating activities in the immediate vicinity would be likely. The new bridge would also create a new obstacle for boaters. In the Draft EIS, SEA indicated that the proposed new bridge would be a hazard to fishermen and recreational boater navigation on Lake Sharpe, but did not discuss barges on this portion of the Missouri River.

SEA received numerous comments from the State of South Dakota, City of Pierre, and local citizens contesting SEA's claim that the new bridge would affect navigation. They indicated that this portion of the river did not support barge traffic and was only used by recreational boaters, fisherman, and duck hunters. SEA reviewed and considered these comments, but still believes that the bridge would pose a hazard to navigation, if only for recreational boaters, fishermen, and duck hunters. While the types of watercraft used by these boaters are generally more maneuverable than a barge, they may potentially operate regardless of the weather and visibility. Fishermen and duck hunters could be on the river in low-light or dark conditions, and in bad weather with precipitation and high winds. The width of the river at this crossing would make it more likely that adverse conditions would result in a boating accident. Conversely, the narrow part of the river is relatively sheltered by the adjacent bluff and lit by the lights of Pierre and Fort Pierre at the existing bridge location.

In addition, the new bridge would introduce a potentially significant disturbance for waterfowl hunters. While the existing bridge is in a relatively deep, narrow, and developed portion of the river, the new bridge would be in a wide, shallow (as noted in many of the comments SEA received), and undeveloped portion of the river. This and adjacent areas provide good waterfowl hunting locations. While the bridge would provide habitat for fish and is not likely to affect fishing success, the presence of a new bridge could alter waterfowl flight patterns along the river. Operating trains could also scare waterfowl that would otherwise be attracted to hunters' decoys. Hunting in this area could decline, sending hunters to other areas of the river.

### **5.2.18 AESTHETICS**

Aesthetic resources include areas of scenic beauty such as views of the Missouri River and the wide open lands and river bluffs from hilltops. Chapter 4 of the Draft EIS describes aesthetic resources for South Dakota in detail. The paragraphs below provide information specific to the Pierre project alternatives and discuss possible impacts related to each of the alternatives.

#### **Alternative P-1: No-Action Alternative**

The existing rail line runs adjacent to State Route 34 east of Pierre, then through Pierre, after which it crosses the Missouri River, traverses Fort Pierre, and leaves that city adjacent to Bad River Road. Within Pierre and Fort Pierre, the visual quality of the landscape is typical of a small city, and pleasant areas are mostly the historic buildings and parks described above. Outside of town, to the east of Pierre and south of Fort Pierre, the landscape offers views of grasslands, rural landscapes, and the Missouri River and its tributary watersheds. No impacts to these resources would result from this alternative except that a deteriorating rail line may contribute to a perception of the area as unkept and dilapidated.

### **Alternative P-2: Existing Rail Line**

Aesthetic resources for this alternative are the same as for Alternative P-1. Reconstruction of the existing rail line would have little impact on existing resources, which include the operating rail line. Reconstruction-related visual impacts would be restricted to the existing rail line right-of-way and could include temporary ground disturbance, vegetation clearing, and the presence of heavy equipment. Following construction, the new materials (including rails, ties, culverts, and ballast) would be more visible than the replaced materials, but would appear clean and well-kept. Following some weathering of these new materials, the rail line should not differ significantly in appearance from the existing rail line, which has been in place for over 100 years. Although visual disturbances during construction could be visible from a great distance because of the flat topography, much of the rail line is screened by adjacent structures. Visual disturbance during reconstruction would not be significant because it would be temporary and disturbed areas would quickly recover.

At the Missouri River crossing, construction impacts would be slightly more noticeable. They would be similar to those described above, but the disturbance would occur over a longer time period, 2-3 years for rehabilitation of the existing bridge or construction of the new one. Bridge work would require the use of heavy machinery and large amounts of material. Barges in the river could be required as platforms for work crews and for placement of bridge piers. During that time, the machinery and associated equipment would be visible from State Route 83, the river, and buildings along the river. Following construction, any visual impacts would be eliminated. Even if a second bridge were constructed and maintained, it would be visually consistent with other area bridges.

### **Alternative P-3: Pierre/Fort Pierre Bypass**

Impacts of the bypass during construction would be similar to those described for Alternative P-2, but would involve greater land disturbance across rural landscapes. Because of this, they would contrast more with the natural, undeveloped landscape and be more noticeable.

Following construction, the rail line cut and fill would be a clearly man-made feature of the rural landscape, in visual contrast to an otherwise natural landscape. Trains, most of which would be over a mile long, could be considered a visual disturbance to the landscape. Currently, some of the most scenic views in the Pierre area are south from Highway 34 across the Missouri River. Construction of Alternative P-3 would introduce a rail line into this landscape, changing its visual character forever.

Alternative P-3 would also involve construction of a new bridge crossing the Missouri River. Impacts would be similar to those described above for Alternative P-2, except that the activity would occur in a previously unobstructed view. Following construction, the bridge would be visible from State Highway 34, the river, and the Antelope Creek Recreation Area, as well as from high points in the area that currently offer a view that does not include a rail bridge. The current view from the proposed Missouri River crossing is of the Missouri River, Antelope Creek and adjacent bluffs, an unobstructed view of grassland habitat on both sides of the river, wetlands and forested habitat, and an open, natural skyline. Construction of the rail line and the associated Missouri River bridge would place a man-made structure in view. The bridge could be perceived by some as an obstruction to the previously unobstructed view.

### 5.3 SEA'S RECOMMENDATIONS

Having analyzed the alternatives for the Pierre/Fort Pierre area, SEA has identified Alternative P-2 as the preferred alternative for this portion of the PRB Expansion Project. In doing so, SEA considered all available information regarding the environmental effects of the proposed project, including information presented and discussed in the Draft EIS, comments on the Draft EIS, and the results of its additional analysis in preparation of this Final EIS.

SEA has carefully compared the P-2 and P-3 alignments. SEA has determined that rehabilitation and operation of the existing line, which passes through mainly developed, more urban areas, would affect noise, safety, and transportation (including emergency-vehicle response). Where possible, SEA has developed mitigation to minimize these impacts (see Chapter 12). SEA's recommended mitigation would include construction of a grade separation in Pierre and grade crossing improvements. SEA is also recommending noise mitigation for the existing rail line that would be applicable to Pierre.<sup>5</sup>

Construction and operation of the P-3 bypass, which crosses rural and agricultural land, would have potentially significant impacts, in particular to cultural resources, Lake Sharpe, aesthetics, land use, and geology and soils. In contrast to Alternative P-2, Alternative P-3 impacts would be more difficult to mitigate. The landscape along the rail alignment and the aesthetics of the area would be permanently changed by construction of a new rail line and a 1.5-mile bridge along the bluffs of the Missouri River and across the river itself. Cultural resources would be substantially impacted, including the alteration of many characteristics of TCPs, which would be difficult and extremely costly to mitigate.

---

<sup>5</sup> Fort Pierre and DM&E have entered into a Negotiated Agreement addressing noise and other environmental concerns in that community.

The Board indicated in its December 10, 1998 decision in this case that its final decision would assess the potential environmental impacts of the proposed project and the cost to mitigate these impacts. In assessing the proposed costs of the Pierre/Fort Pierre alternatives, SEA considered the estimated cost of constructing the bypass. The City of Pierre has estimated this as approximately \$94 million. DM&E's estimate is \$97.5 to \$125.5 million. Both estimates include \$35 million for the new bridge over the Missouri River. Additional costs could include the recovery of cultural resources, which could potentially add several million dollars to the cost of Alternative P-3.

The City of Pierre's estimated cost of reconstructing the 17.8-mile existing rail route through town is approximately \$50.4 million, including the cost of various suggested mitigation measures. Although operational costs for Alternative P-3 could be less than for Alternative P-2 (due to lower fuel and track maintenance costs on a shorter route), any savings would be insignificant compared to the costs to construct and operate Alternative P-3. Alternative P-2 with mitigation would be substantially less expensive, thereby minimizing DM&E's costs.

For the reasons discussed above, SEA therefore concludes that, if the Board gives final approval to the PRB Expansion Project, Alternative P-2, reconstruction and operation of DM&E's existing rail line through Pierre and Fort Pierre, would be the preferred route.

\* \* \* \* \*

[THIS PAGE INTENTIONALLY LEFT BLANK]